

BY

22. (Amended) The compound or salt thereof according to claim 21, wherein the aromatic carboxylic acid residue represented by R^2 is selected from the group consisting of a benzoic acid residue having a substituent, a nicotinic acid residue having a substituent, a quinolinecarboxylic acid residue having a substituent, a pyrimidine carboxylic acid residue having a substituent, and a quinoxalinecarboxylic acid residue having a substituent, wherein the substituent is selected from the group consisting of hydroxyl, halogen atoms, nitro, amino, di C_{1-6} alkylamino, formylamino, C_{1-6} alkyl, C_{1-6} alkoxy, benzyloxy, C_{1-10} aliphatic acyloxy, benzyloxy, C_{1-4} alkyloxycarbonyloxy, (C_{1-4}) alkyloxycarbonyl(C_{1-4})alkyloxy, p-nitrobenzyloxycarbonyl(C_{1-4})alkyloxy, C_{1-6} alkylsulfonyloxy, di(C_{1-6})alkylphosphoryloxy, and diphenylphosphoryloxy.

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Thus, claim 1 has been amended, in view of the Examiner's rejections, to limit the aromatic carboxylic acid residue of R^2 to those disclosed at page 6, lines 4-19 of the specification, as a result of which claims 2 and 4-7 have been canceled, and claim 3 has been amended to be consistent with amended claim 1.

Also in view of the Examiner's rejections, claims 12-15 have been amended to recite an effective amount of the compound or salt, and claim 12 has been further amended to recite use of the compound or salt for agricultural or garden plants, based on the disclosure at page 4, line 6 of the specification.

Claim 22 has been amended, in response to the rejection of this claim, to recite the substituents for the R^2 residues, based on the disclosure on page 6 of the specification as referred to above.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "Version with markings to show changes made."

The rejection of claims 12-15 under the first paragraph of 35 U.S.C. § 112 is respectfully traversed.

The Examiner takes the position that the specification does not reasonably provide enablement for the method of preventing fungal diseases or fungi.

However, the prevention aspect of the present invention is enabled by the specification, particularly in view of Test Examples 2-5 beginning on page 61 of the specification, wherein the acetone solution of the compound was applied to plants before the fungus was inoculated. The results of these Test Examples show that the claimed compounds effectively prevent fungal disease in the plants.

In response to the Examiner's position based on the breadth of R², as indicated above claim 1 has been amended to restrict the definition of R².

Applicants take the position that the antifungal activity of the compounds of amended claim 1 is supported by the biological tests in Test Examples 1-6 in the specification. More specifically, Tables 3-4 show the antifungal activity of the compounds of Examples 4, 8, 17 and 39.

In the last paragraph on page 4 of the Office Action, the Examiner suggests restricting out a quinoxalinecarboxylic acid residue having a substituent. However, this has been retained in amended claim 1. Applicants note that the compound of Example 8 has this residue.

The rejection of claims 1-2 and 22 under the second paragraph of 35 U.S.C. § 112 is respectfully traversed.

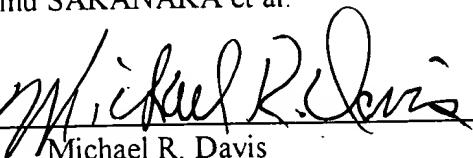
The only remaining ground for this rejection, in view of the claim amendments, is in item C where the Examiner states that the phrase "at least one" is indefinite since it is uncertain how many substituents Applicants are referring to. In this regard, the number of substituents is inherently limited by the available positions on the picolinic acid residue in claims 24 and 25. Please refer to Table 1 beginning on page 56 of the specification, giving examples of the substituted picolinic acid residue, for instance as shown in Examples 5 and 9-37. Since the number of available positions that can carry a substituent is inherently limited by the picolinic acid residue structure, the phrase "at least one" cannot reasonably be considered to render the claims indefinite.

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of objection and rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

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By:


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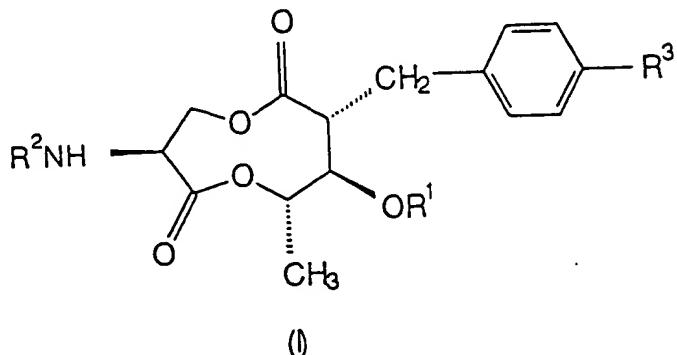
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) A compound represented by formula (I) or a salt thereof:



wherein

R¹ represents isobutyryl, tigloyl, isovaleryl, or 2-methylbutanoyl;

R² represents a hydrogen atom, [an aromatic carboxylic acid residue excluding a 3-hydroxypicolinic acid residue, a 3-hydroxy-4-methoxypicolinic acid residue and a 3,4-dimethoxypicolinic acid residue, or represents a protective group of amino] a benzoic acid residue having a substituent, a nicotine acid residue having a substituent, or a quinoxalinecarboxylic acid residue having a substituent, wherein the substituent is selected from the group consisting of hydroxyl, halogen atoms, nitro, amino, diC₁₋₆alkylamino, formylamino, C₁₋₆alkyl, C₁₋₆alkoxy, benzyloxy, C₁₋₁₀aliphatic acyloxy, benzyloxy, C₁₋₄alkyloxycarbonyloxy, (C₁₋₄)alkyloxycarbonyl(C₁₋₄)alkyloxy, p-nitrobenzyloxycarbonyl(C₁₋₄)alkyloxy, C₁₋₆alkylsulfonyloxy, di(C₁₋₆)alkylphosphoryloxy, and diphenylphosphoryloxy; and

R³ represents a hydrogen atom.

3. (Amended) The compound or salt thereof according to claim 1, wherein [the aromatic carboxylic acid residue represented by] R² is selected from the group consisting of a hydroxybenzoic acid residue, [a picolinic acid residue,] a nicotinic acid residue having a hydroxy substituent, [a quinolinecarboxylic acid residue, a pyrimidinecarboxylic acid residue having a hydroxy substituent,] and a quinoxalinecarboxylic acid residue having a hydroxy substituent.

12. (Twice Amended) A method for preventing the appearance and proliferation of fungi or exterminating fungi, comprising using an effective amount of the compound or salt thereof according to any one of claims 1, 20 or 21 for agricultural or garden plants.

13. (Twice Amended) A method for treating fungal infectious diseases, comprising administering an effective amount of the compound or salt thereof according to any one of claims 1, 20 or 21 to animals including human beings.

14. (Twice Amended) A method for treating fungal infectious diseases, comprising applying an effective amount of the compound or salt thereof according to any one of claims 1, 20 or 21 to agricultural or garden plants.

15. (Twice Amended) A method for preventing the appearance and proliferation of fungi or exterminating fungi, comprising applying an effective amount of the compound or salt thereof according to any one of claims 1, 20 or 21 to industrial products or in the course of production of industrial products.

22. (Amended) The compound or salt thereof according to claim 21, wherein the aromatic carboxylic acid residue represented by R² is selected from the group consisting of a benzoic acid residue having a substituent, a nicotinic acid residue having a substituent, a quinolinecarboxylic acid residue having a substituent, a pyrimidine carboxylic acid residue having a substituent, and a quinoxalinecarboxylic acid residue having a substituent, wherein the substituent is selected from the group consisting of hydroxyl, halogen atoms, nitro, amino, diC₁₋₆alkylamino, formylamino, C₁₋₆alkyl, C₁₋₆alkoxy, benzyloxy, C₁₋₁₀aliphatic acyloxy, benzyloxy, C₁₋₄alkyloxycarbonyloxy, (C₁₋₄)alkyloxycarbonyl(C₁₋₄)alkyloxy, p-nitrobenzyloxycarbonyl(C₁₋₄)alkyloxy, C₁₋₆alkylsulfonyloxy, di(C₁₋₆)alkylphosphoryloxy, and diphenylphosphoryloxy.